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DATE: Friday, February 17, 2006

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☐	L2	hyaluronan synthase or hyalouronic acid synthase	57
☐	L1	glycosaminoglycan transferase	1

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☐ 1. Document ID: US 6991921 B2

Using default format because multiple data bases are involved.

L2: Entry 1 of 57 File: USPT Jan 31, 2006

US-PAT-NO: 6991921
DOCUMENT-IDENTIFIER: US 6991921 B2

TITLE: Hyaluronan synthase gene and uses thereof

DATE-ISSUED: January 31, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20030073221 A1	April 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weigel; Paul H.	Edmond	OK		US
Kumari; Kshama	Oklahoma City	OK		US
DeAngelis; Paul	Edmond	OK		US

US-CL-CURRENT: 435/84; 435/101

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 6987023 B2

L2: Entry 2 of 57 File: USPT Jan 17, 2006

US-PAT-NO: 6987023
DOCUMENT-IDENTIFIER: US 6987023 B2

TITLE: DNA encoding hyaluronan synthase from Pasteurella multocida and methods of use

DATE-ISSUED: January 17, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20030113845 A1	June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
DeAngelis; Paul	Edmond	OK		US

US-CL-CURRENT: 435/325; 435/193, 435/252.3, 435/254.11, 435/69.1, 536/23.2

ABSTRACT:

The present invention relates to a nucleic acid segment having a coding region segment encoding enzymatically active Pasturella multocida hyaluronate synthase (PmHAS), and to the use of this nucleic acid segment in the preparation of recombinant cells which produce hyaluronate synthase and its hyaluronic acid product. Hyaluronate is also known as hyaluronic acid or hyaluronan. The present invention also relates to the use of the PmHAS in constructing "knock-out" mutant strains of P. multocida for use in vaccinations. The present invention further relates to the use of the PmHAS in diagnostic tests in the field determinations of livestock P. multocida infection.

20 Claims, 27 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 17

☐ 3. Document ID: US 6974805 B2

L2: Entry 3 of 57 File: USPT Dec 13, 2005

US-PAT-NO: 6974805
DOCUMENT-IDENTIFIER: US 6974805 B2

TITLE: Configuration of glycosaminoglycans

DATE-ISSUED: December 13, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hu; Min	Fremont	CA	94555	

US-CL-CURRENT: 514/54; 536/53, 536/55.1

ABSTRACT:

The present invention provides stable glycosaminoglycan (GSG) structures and methods of use of such GAG structures. These structures comprise a core of free GAG, a coating of crosslinked GAG surrounding the core, and a layer of a positively charged moiety surrounding the crosslinked GAG layer. These GAG structures provide improved stability, both in in vivo and external use. Furthermore, resurfacing of the structures provides improved cell adhesion and thus improved delivery of the GAG into living cells and tissues.

2 Claims, 17 Drawing figures
Exemplary Claim Number: 1

Number of Drawing Sheets: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 4. Document ID: US 6951743 B2

L2: Entry 4 of 57 File: USPT Oct 4, 2005

US-PAT-NO: 6951743
DOCUMENT-IDENTIFIER: US 6951743 B2

TITLE: Hyaluronan synthase genes and expression thereof in bacillus hosts

DATE-ISSUED: October 4, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
DeAngelis; Paul L.	Edmond	OK		
Weigel; Paul H.	Edmond	OK		
Kumari; Kshama	Edmond	OK		

US-CL-CURRENT: 435/84; 435/101, 435/252.31, 536/53

ABSTRACT:

The present invention relates to a recombinant Bacillus host cell containing a recombinant vector including a nucleic acid segment having a coding region segment encoding enzymatically active hyaluronan synthase (HAS). The recombinant Bacillus host cell is utilized in a method for producing hyaluronic acid (HA).

131 Claims, 21 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 22

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 5. Document ID: US 6936417 B2

L2: Entry 5 of 57 File: USPT Aug 30, 2005

US-PAT-NO: 6936417
DOCUMENT-IDENTIFIER: US 6936417 B2

TITLE: Gene expression in bladder tumors

DATE-ISSUED: August 30, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY

Orntoft; Torben F. Aabyhoj DK

US-CL-CURRENT: 435/6; 435/91.2, 536/23.5

ABSTRACT:

Methods for analyzing tumor cells, particularly bladder tumor cells employ gene expression analysis of samples. Gene expression patterns are formed and compared to reference patterns. Alternatively gene expression patterns are manipulated to exclude genes which are expressed in contaminating cell populations. Another alternative employs subtraction of the expression of genes which are expressed in contaminating cell types. These methods provide improved accuracy as well as alternative basis for analysis from diagnostic and prognostic tools currently available.

1 Claims, 24 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 15

☐ 6. Document ID: US 6884619 B2

L2: Entry 6 of 57 File: USPT Apr 26, 2005

US-PAT-NO: 6884619
DOCUMENT-IDENTIFIER: US 6884619 B2

TITLE: Inhibition of BEHAB cleavage and primary central nervous system (CNS) tumors

DATE-ISSUED: April 26, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hockfield; Susan	North Haven	CT		
Matthews; Russell T.	New Haven	CT		

US-CL-CURRENT: 435/325; 435/375, 435/6, 435/91.1, 536/23.1, 536/24.1, 536/24.3, 536/24.33, 536/24.5

ABSTRACT:

The present invention relates to primary CNS tumors and provides useful compositions and methods for reducing tumor volume and increasing the length of survival in mammals with primary CNS tumors, thereby providing a treatment for primary CNS tumors. The invention also relates to methods of identifying compounds for reducing tumor volume and increasing animal survival, which therefore relate to treating primary CNS tumors.

14 Claims, 10 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

☐ 7. Document ID: US 6864224 B1

L2: Entry 7 of 57 File: USPT Mar 8, 2005

US-PAT-NO: 6864224
DOCUMENT-IDENTIFIER: US 6864224 B1

TITLE: Kinase inhibitors and methods of use in screening assays and modulation of cell proliferation and growth

DATE-ISSUED: March 8, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sedivy; John M.	Barrington	RI		
Kolch; Walter	Glasgow			GB
Yeung; Kam Chi	Barrington	RI		

US-CL-CURRENT: 512/2; 435/375

ABSTRACT:

The invention relates to the discovery of a novel amino acid sequence motif, herein termed the RKIP motif, and to the family of proteins defined by the presence of that motif. Proteins comprising the RKIP motif modulate kinases involved in signal transduction pathways. The RKIP motif forms the basis for screening assays for the identification of agents useful for modulating signal transduction pathways subject to RKIP family mediated regulation, and for the diagnosis and treatment of disorders involving inappropriate activities of pathways subject to RKIP family medicated regulation.

1 Claims, 13 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 8. Document ID: US 6855502 B2

L2: Entry 8 of 57 File: USPT Feb 15, 2005

US-PAT-NO: 6855502
DOCUMENT-IDENTIFIER: US 6855502 B2
**** See image for Certificate of Correction ****

TITLE: Hyaluronate synthase gene and uses thereof

DATE-ISSUED: February 15, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weigel; Paul H.	League City	TX	77573	
DeAngelis; Paul L.	Galveston	TX	77550	
Papaconstantinou; John	Galveston	TX	77550	

US-CL-CURRENT: 435/6

ABSTRACT:

Disclosed are DNA sequences encoding hyaluronic acid synthase that are employed to construct recombinant cells useful in the production of hyaluronate synthase and hyaluronic acid (HA). In preferred aspects, chromosomal DNA encoding the HA synthase gene, hasA, was cloned from a Streptococcus pyogenes genomic library. These vectors were used to transform host cells such as E. coli and acapsular Streptococci to produce hyaluronic acid. Resultant transformants were screened to identify colonies which have incorporated HA synthase DNA in a form that is being actively transcribed into the corresponding HA synthase enzyme. These colonies were selected and employed in the production of hyaluronic acid.

6 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

☐ 9. Document ID: US 6852696 B2

L2: Entry 9 of 57 File: USPT Feb 8, 2005

US-PAT-NO: 6852696
DOCUMENT-IDENTIFIER: US 6852696 B2

TITLE: Inhibitors of glycosaminoglycans

DATE-ISSUED: February 8, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Takashima; Akira	Coppel	TX		
Mummert; Mark E.	Dallas	TX		

US-CL-CURRENT: 514/13; 514/14, 514/2, 530/300, 530/326, 530/327

ABSTRACT:

The present invention provides peptide derivatives with a specific affinity for glycosaminoglycan molecules. These peptide derivatives include multimers as well as chemically modified peptides and may be prepared by a variety of methods. The peptides of the invention have numerous functions, including but not limited to use as inhibitors of glycosaminoglycan-mediated signaling events and targeting agents. Peptides of the invention may be directed against any glycosaminoglycan, including

hyaluronic acid, chondroitin sulfate A, chondroitin sulfate C, dermatan sulfate, heparin, keratan sulfate, keratosulfate, chitin, chitosan 1, and chitosan 2. The peptide derivatives of the invention also have therapeutic uses in the treatment and prevention of diseases involving inflammatory diseases, cancer, and cancer metastasis, autoimmune diseases, etc.

9 Claims, 11 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 11

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. D

☐ 10. Document ID: US 6852514 B2

L2: Entry 10 of 57 File: USPT Feb 8, 2005

US-PAT-NO: 6852514
DOCUMENT-IDENTIFIER: US 6852514 B2
**** See image for Certificate of Correction ****

TITLE: Hyaluronate synthase gene and uses thereof

DATE-ISSUED: February 8, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weigel; Paul H.	League City	TX		
DeAngelis; Paul L.	Galveston	TX		
Papaconstantinou; John	Galveston	TX		

US-CL-CURRENT: 435/84; 435/101

ABSTRACT:

Disclosed are DNA sequences encoding hyaluronic acid synthase that are employed to construct recombinant cells useful in the production of hyaluronate synthase and hyaluronic acid (HA). In preferred aspects, chromosomal DNA encoding the HA synthase gene, hasA, was cloned from a Streptococcus pyogenes genomic library. These vectors were used to transform host cells such as E. coli and acapsular Streptococci to produce hyaluronic acid. Resultant transformants were screened to identify colonies which have incorporated HA synthase DNA in a form that is being actively transcribed into the corresponding HA synthase enzyme. These colonies were selected and employed in the production of hyaluronic acid.

20 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. D

☐ 11. Document ID: US 6833264 B1

L2: Entry 11 of 57 File: USPT Dec 21, 2004

US-PAT-NO: 6833264
DOCUMENT-IDENTIFIER: US 6833264 B1

TITLE: Hyaluronan synthase gene and uses therof

DATE-ISSUED: December 21, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weigel; Paul H.	Edmond	OK		
Kumari; Kshama	Oklahoma City	OK		
DeAngelis; Paul	Edmond	OK		

US-CL-CURRENT: 435/252.31; 435/193, 435/252.3, 435/252.33, 435/320.1, 435/836, 435/839, 435/848, 536/23.2

ABSTRACT:

The present invention relates to a nucleic acid segment having a coding region segment encoding enzymatically active Streptococcus equisimilis hyaluronate synthase (seHAS), and to the use of this nucleic acid segment in the preparation of recombinant cells which produce hyaluronate synthase and its hyaluronic acid product. Hyaluronate is also known as hyaluronic acid or hyaluronan.

14 Claims, 13 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

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☐ 12. Document ID: US 6833130 B1

L2: Entry 12 of 57 File: USPT Dec 21, 2004

US-PAT-NO: 6833130
DOCUMENT-IDENTIFIER: US 6833130 B1

TITLE: Recombinant microorganisms expressing an oligosaccharide receptor mimic

DATE-ISSUED: December 21, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Paton; Adrienne W.	North Adelaide			AU
Morona; Renato	Adelaide			AU
Paton; James C.	North Adelaide			AU

US-CL-CURRENT: 424/93.48; 424/93.2, 424/93.4, 435/243, 435/252.1, 435/252.3, 435/252.33, 435/252.8, 435/471, 435/488

ABSTRACT:

Chimeric carbohydrates produced by recombinant microorganism carrying exogenous glycosyltransferases act with or without exogenous enzymes required for synthesis or nucleotide synthesis precursors. These recombinant microorganism can be used for competitively inhibiting the binding of toxins or adhesins to receptors of mucosal surfaces, especially gastrointestinal surface. In particular chimeric sugar moieties have been made for lipopolysaccharides, in recombinant microorganism that present multiple copies of the oligosaccharides. The oligosaccharide moieties so presented act as receptor mimic for toxins and adhesins. A number have been synthesized and have been shown to confer protection against attack by pathogenic organisms or their products in vitro and in vivo.

32 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

☐ 13. Document ID: US 6689936 B1

L2: Entry 13 of 57 File: USPT Feb 10, 2004

US-PAT-NO: 6689936
DOCUMENT-IDENTIFIER: US 6689936 B1
**** See image for Certificate of Correction ****

TITLE: Method for evaluating a compound for its effect on skin

DATE-ISSUED: February 10, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Burgeson; Robert	Marbleland	MA		
Amano; Satoshi	Komae			JP
Kishimoto; Jiro	Wellesley	MA		
Nishiyama; Toshio	Tokyo			JP
Ehama; Ritsuko	Yokohama			JP

US-CL-CURRENT: 800/3; 800/18

ABSTRACT:

The invention provides methods of evaluating a treatment for its effect on skin. The invention also provides non-human transgenic animals, e.g., mice, having a reporter gene coupled to a skin-metabolism promoter.

14 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

☐ 14. Document ID: US 6680174 B1

L2: Entry 14 of 57 File: USPT Jan 20, 2004

US-PAT-NO: 6680174
DOCUMENT-IDENTIFIER: US 6680174 B1

TITLE: Assay for growth differentiation factor 9

DATE-ISSUED: January 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matzuk; Martin M.	Pearland	TX		
Elvin; Julia A.	Houston	TX		
Wang; Pei	Houston	TX		

US-CL-CURRENT: 435/7.21; 424/9.2, 435/212, 435/215, 435/217, 435/7.2, 530/324, 530/350, 530/399

ABSTRACT:

The present invention relates to a method of identifying an agent which alters (inhibits, enhances) activity of GDF-9. The method involves combining cells having a receptor for GDF-9 and a gene, wherein expression of the gene is regulated by binding of GDF-9 to the receptor; GDF-9; and an agent to be assessed. The combination produced is maintained under conditions appropriate for binding of GDF-9 to the receptors on the cells. The extent to which binding of GDF-9 to the receptors on the cells occurs is then determined, wherein binding of GDF-9 to the receptor to a lesser or greater extent in the presence of the agent to be assessed than in its absence, is indicative of an agent which alters GDF-9 activity.

51 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 15. Document ID: US 6645945 B1

L2: Entry 15 of 57 File: USPT Nov 11, 2003

US-PAT-NO: 6645945
DOCUMENT-IDENTIFIER: US 6645945 B1

TITLE: Method of treating diseased, injured or abnormal cartilage with hyaluronic acid and growth factors

DATE-ISSUED: November 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Radomsky; Michael	San Diego	CA		
Heidaran; Mohammad A.	Los Gatos	CA		

US-CL-CURRENT: 514/54; 514/2, 514/62, 530/350, 536/53

ABSTRACT:

A composition is provided for treating diseased, injured or diseased cartilage comprising hyaluronic acid and a growth factor. The composition has a viscosity and biodegradability sufficient to persist at the site for a period of time sufficient to alleviate the symptoms of the disease, injury or abnormality. Preferably hyaluronic acid is used in a composition range of 0.01-4% by weight and the preferred growth factor is IGF-I, present in a concentration range of about 10.sup.-6 to 100 mg/ml.

14 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 16. Document ID: US 6602693 B1

L2: Entry 16 of 57 File: USPT Aug 5, 2003

US-PAT-NO: 6602693
DOCUMENT-IDENTIFIER: US 6602693 B1

TITLE: Gene encoding hyaluronan synthase

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McDonald; John A.	Scottsdale	AZ		
Spicer; Andrew P.	Scottsdale	AZ		
Augustine; Mary Louise	Scottsdale	AZ		

US-CL-CURRENT: 435/183; 435/252.3, 435/254.11, 435/320.1, 435/325, 435/410, 536/23.1, 536/23.2

ABSTRACT:

An isolated and purified DNA molecule encoding hyaluronan synthase-2 (Has2) is provided, as is purified and isolated Has2 polypeptide. Also provided is an isolated and purified DNA molecule encoding hyaluronan synthase-3 (Has3), as is purified and isolated Has3 polypeptide.

24 Claims, 31 Drawing figures

Exemplary Claim Number: 1
Number of Drawing Sheets: 25

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 17. Document ID: US 6492150 B1

L2: Entry 17 of 57 File: USPT Dec 10, 2002

US-PAT-NO: 6492150
DOCUMENT-IDENTIFIER: US 6492150 B1
**** See image for Certificate of Correction ****

TITLE: Gene encoding hyaluronan synthase

DATE-ISSUED: December 10, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McDonald; John A.	Scottsdale	AZ		
Spicer; Andrew P.	Scottsdale	AZ		
Augustine; Mary Louise	Scottsdale	AZ		

US-CL-CURRENT: 435/183; 435/252.3, 435/320.1, 435/325, 435/84, 536/23.1, 536/23.2

ABSTRACT:

An isolated and purified DNA molecule encoding hyaluronan synthase-2 (Has2) is provided, as is purified and isolated Has2 polypeptide.

15 Claims, 21 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 16

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 18. Document ID: US 6465179 B1

L2: Entry 18 of 57 File: USPT Oct 15, 2002

US-PAT-NO: 6465179
DOCUMENT-IDENTIFIER: US 6465179 B1
**** See image for Certificate of Correction ****

TITLE: DNA encoding an arthropod chitin synthase

DATE-ISSUED: October 15, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY

Thireos; George	Heraklion	GR
Kafetzopoulos; Dimitris	Heraklion	GR

US-CL-CURRENT: 435/6; 435/193, 435/252.3, 435/320.1, 435/69.1, 435/69.2, 536/23.2

ABSTRACT:

The present invention relates to nucleic acids comprising a nucleotide sequence encoding at least a portion of an enzyme which catalyzes the synthesis of chitin in arthropods, inhibitors directed to said enzyme, and a method for developing said inhibitors.

7 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

☐ 19. Document ID: US 6455304 B1

L2: Entry 19 of 57 File: USPT Sep 24, 2002

US-PAT-NO: 6455304
DOCUMENT-IDENTIFIER: US 6455304 B1

TITLE: Hyaluronate synthase gene and uses thereof

DATE-ISSUED: September 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weigel; Paul H.	League City	TX		
DeAngelis; Paul L.	Galveston	TX		
Papaconstantinou; John	Galveston	TX		

US-CL-CURRENT: 435/320.1; 435/193, 435/252.3, 435/252.31, 435/69.1, 536/23.2

ABSTRACT:

Disclosed are DNA sequences encoding hyaluronic acid synthase that are employed to construct recombinant cells useful in the production of hyaluronate synthase and hyaluronic acid (HA). In preferred aspects, chromosomal DNA encoding the HA synthase gene, hasA, was cloned from a Streptococcus pyogenes genomic library. These vectors were used to transform host cells such as E. coli and acapsular Streptococci to produce hyaluronic acid. Resultant transformants were screened to identify colonies which have incorporated HA synthase DNA in a form that is being actively transcribed into the corresponding HA synthase enzyme. These colonies were selected and employed in the production of hyaluronic acid.

6 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

☐ 20. Document ID: US 6444447 B1

L2: Entry 20 of 57 File: USPT Sep 3, 2002

US-PAT-NO: 6444447
DOCUMENT-IDENTIFIER: US 6444447 B1

TITLE: Polymer grafting by polysaccharide synthases

DATE-ISSUED: September 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
DeAngelis; Paul L.	Edmond	OK		

US-CL-CURRENT: 435/97; 435/101, 435/72, 977/898

ABSTRACT:

The present invention relates to methodology for polymer grafting by a polysaccharide synthase and, more particularly, polymer grafting using the hyaluronate synthase from Pasteurella multocida. The present invention also relates to coatings for biomaterials wherein the coatings provide protective properties to the biomaterial and/or act as a bioadhesive. Such coatings could be applied to electrical devices, sensors, catheters and any device which may be contemplated for use within a mammal. The present invention further relates to drug delivery matrices which are biocompatible and may comprise combinations of a biomaterial or a bioadhesive and a medicament or a medicament-containing liposome. The biomaterial and/or bioadhesive is a hyaluronic acid polymer produced by a hyaluronate synthase from Pasteurella multocida. The present invention also relates to the creation of chimeric molecules containing hyaluronic acid or hyaluronic acid-like chains attached to various compounds and especially carbohydrates or hydroxyl containing substances. The present invention also relates to a chondroitan synthase from Pasteurella multocida which is capable of producing polysaccharide polymers on an acceptor or primer molecule.

48 Claims, 11 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 11

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 21. Document ID: US 6423514 B1

L2: Entry 21 of 57 File: USPT Jul 23, 2002

US-PAT-NO: 6423514
DOCUMENT-IDENTIFIER: US 6423514 B1

TITLE: Mammalian hyaluronan synthases, nucleic acids and uses thereof

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Briskin; Michael J.	Lexington	MA		

US-CL-CURRENT: 435/84; 435/101, 435/183, 435/252.3, 435/320.1, 435/325, 536/23.2

ABSTRACT:

The present invention relates to an isolated or recombinant nucleic acid which encodes a mammalian hyaluronan synthase (e.g. human). The present invention also relates to a host cell comprising the nucleic acid encoding mammalian hyaluronan synthase. The present invention also relates to a method for producing a mammalian hyaluronan synthase comprising introducing into a host cell a nucleic acid construct comprising a nucleic acid which encodes a mammalian hyaluronan synthase, whereby a recombinant host cell is produced having said coding sequence operably linked to at least one expression control sequence; and maintaining the host cells produced in a suitable medium under conditions whereby the nucleic acid is expressed. The present invention also relates to an antibody or functional portion thereof which binds mammalian hyaluronan synthase. The present invention also relates to a method of detecting mammalian hyaluronan synthase in a sample comprising contacting a sample with an antibody which binds hyaluronan synthase under conditions suitable for specific binding of said antibody to the mammalian hyaluronan synthase; and detecting antibody-mammalian hyaluronan synthase. The invention further relates to a method of using hyaluronan synthase to make hyaluronan.

14 Claims, 10 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

☐ 22. Document ID: US 6413935 B1

L2: Entry 22 of 57 File: USPT Jul 2, 2002

US-PAT-NO: 6413935
DOCUMENT-IDENTIFIER: US 6413935 B1
**** See image for Certificate of Correction ****

TITLE: Induction of immune response against desired determinants

DATE-ISSUED: July 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sette; Alessandro	La Jolla	CA		
Gaeta; Federico	San Rafael	CA		
Grey; Howard M.	La Jolla	CA		

Sidney; John	San Diego	CA
Alexander; Jeffrey L.	San Diego	CA

US-CL-CURRENT: 514/14; 424/185.1, 424/193.1, 530/300, 530/327, 530/402, 530/403

ABSTRACT:

The present invention provides compositions and methods of inducing immune response in patients. In particular, it provides compositions useful in inducing humoral resposes against desired immunogens, particularly polysaccharides.

52 Claims, 19 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 23. Document ID: US 6350446 B1

L2: Entry 23 of 57 File: USPT Feb 26, 2002

US-PAT-NO: 6350446
DOCUMENT-IDENTIFIER: US 6350446 B1

TITLE: HAS2 splicing variant HOEFC11: a target in chronic renal failure, inflammatory diseases and myocardial ischemia

DATE-ISSUED: February 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zhu; Yuan	Blue Bell	PA		
Nambi; Ponnal	Berwyn	PA		
Pullen; Mark A	Colmar	PA		

US-CL-CURRENT: 424/94.1; 530/350

ABSTRACT:

HOEFC11 polypeptides and polynucleotides and methods for producing such polypeptides by recombinant techniques are disclosed. Also disclosed are methods for utilizing HOEFC11 polypeptides and polynucleotides in the design of protocols for the treatment of chronic renal failure, inflammatory diseases, myocardial ischemia, cancer, rheumatoid arthritis, cirrhotic liver disease, among others, and diagnostic assays for such conditions.

2 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 24. Document ID: US 6335170 B1

L2: Entry 24 of 57 File: USPT Jan 1, 2002

US-PAT-NO: 6335170
DOCUMENT-IDENTIFIER: US 6335170 B1

TITLE: Gene expression in bladder tumors

DATE-ISSUED: January 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Orntoft; Torben F.	DK 8230 Aabyhoj			DK

US-CL-CURRENT: 435/6; 435/91.1, 435/91.2, 536/23.1, 536/24.3, 536/24.31, 536/24.33

ABSTRACT:

Methods for analyzing tumor cells, particularly bladder tumor cells employ gene expression analysis of samples. Gene expression patterns are formed and compared to reference patterns. Alternatively gene expression patterns are manipulated to exclude genes which are expressed in contaminating cell populations. Another alternative employs subtraction of the expression of genes which are expressed in contaminating cell types. These methods provide improved accuracy as well as alternative basis for analysis from diagnostic and prognostic tools currently available.

21 Claims, 24 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 15

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 25. Document ID: US 6331396 B1

L2: Entry 25 of 57 File: USPT Dec 18, 2001

US-PAT-NO: 6331396
DOCUMENT-IDENTIFIER: US 6331396 B1

TITLE: Arrays for identifying agents which mimic or inhibit the activity of interferons

DATE-ISSUED: December 18, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Silverman; Robert H.	Beachwood	OH		
Williams; Bryan R. G.	Cleveland	OH		
Der; Sandy	Cleveland	OH		

US-CL-CURRENT: 435/6; 435/287.2, 536/23.1, 536/23.52, 536/24.3, 536/24.31

ABSTRACT:

Methods and model systems for identifying and characterizing new therapeutic agents, particularly proteins, which mimic or inhibit the activity of all interferons, Type I interferons, IFN-.alpha., IFN-.beta., or IFN-.gamma.. The method comprises administering an interferon selected from the group consisting of IFN-.alpha., IFN .beta., IFN-.tau., IFN-.omega., IFN-.gamma., and combinations thereof to cultured cells, administering the candidate agent to a duplicate culture of cells; and measuring the effect of the candidate agent and the interferon on the transcription or translation of one or, preferably, a plurality of the interferon stimulated genes or the interferon repressed genes (hereinafter referred to as "ISG's" and "IRGs", respectively). The model system is an array with gene probes that hybridize with from about 100 to about 5000 ISG and IRG transcripts.

8 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 26. Document ID: US 6204029 B1

L2: Entry 26 of 57 File: USPT Mar 20, 2001

US-PAT-NO: 6204029
DOCUMENT-IDENTIFIER: US 6204029 B1

TITLE: Glycosylated acceptor synthesis catalyzed by glycosyl transferase and nucleotide phosphate sugar-dependent enzyme

DATE-ISSUED: March 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Withers; Stephen G.	Vancouver			CA
Lougheed; Brenda	Vancouver			CA

US-CL-CURRENT: 435/97; 435/100, 435/101, 435/174, 435/179, 435/193

ABSTRACT:

Glycosylated acceptors are prepared using glycosyl transferase and activated glycosyl derivatives as donor sugars without the use of sugar nucleotides as donor sugars. A reaction mixture composition containing an activated glycoside derivative such as glycosyl fluoride or glycosyl mesylate, an acceptor substrate such as lactose or other oligosaccharide, a glycosyl transferase and a catalytic amount of a nucleotide phosphate or nucleotide phosphate analog is reacted to produce the glycosylated acceptor. The acceptor substrate may also be a monosaccharide, a fluorescent-labeled saccharide or a saccharide derivative such as an aminoglycoside antibiotic. The glycosyl transferase may be immobilized by removing its membrane-binding domain and attaching in its place a cellulose-binding domain. In another embodiment, a glycosylated acceptor is formed by making a nucleotide phosphate glycoside in situ in a steady state concentration. This process is carried out by

admixing in an aqueous medium an activated glycoside derivative, a glycosyl transferase, a member selected from the group consisting of a nucleotide phosphate and a nucleotide phosphate analog, a nucleotide phosphate sugar-dependent enzyme and an acceptor substrate. The glycosyl transferase catalyzes the reaction of the activated glycoside derivative with the nucleotide phosphate or analog to form the nucleotide phosphate glycoside in situ, and the nucleotide phosphate sugar-dependent enzyme catalyzes the reaction of the nucleotide phosphate glycoside with the acceptor substrate to form the glycosylated acceptor.

39 Claims, 16 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 15

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

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☐ 27. Document ID: US 6162908 A

L2: Entry 27 of 57 File: USPT Dec 19, 2000

US-PAT-NO: 6162908
DOCUMENT-IDENTIFIER: US 6162908 A

TITLE: Polypeptide of human-origin hyaluronate synthetase and DNA encoding the same

DATE-ISSUED: December 19, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Itano; Naoki	Owariasahi			JP
Kimata; Koji	Nagoya			JP

US-CL-CURRENT: 536/23.2; 435/183, 435/6, 435/69.1, 536/23.1

ABSTRACT:

A DNA encoding at least part of a hyaluronan synthase of human origin, particularly encoding the whole or a part of an amino acid sequence shown by SEQ ID NO: 4. A polypeptide of the hyaluronan synthase of human origin, which is encoded by the DNA, may have a substitution, deletion or insertion of one or more amino acid residues that does not substantially lower an activity of synthesizing hyaluronan. A polypeptide of the hyaluronan synthase of human origin or a part thereof encoded by the DNA is also provided.

6 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

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☐ 28. Document ID: US 6025194 A

L2: Entry 28 of 57 File: USPT Feb 15, 2000

US-PAT-NO: 6025194
DOCUMENT-IDENTIFIER: US 6025194 A

TITLE: Nucleic acid sequence of senescence asssociated gene

DATE-ISSUED: February 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Funk; Walter	Hayward	CA		

US-CL-CURRENT: 435/320.1; 435/325, 536/23.1, 536/23.5, 536/24.1

ABSTRACT:

Human gene GC6 is expressed more abundantly in senescent cells than young cells. Isolated, purified, and recombinant nucleic acids and proteins corresponding to the human GC6 gene and its mRNA and protein products, as well as peptides and antibodies corresponding to the GC6 protein can be used to identify senescent cells, distinguish between senescent and young cells, identify agents that alter senescent gene expression generally and GC6 expression specifically; such agents as well as GC6 gene and gene products and products corresponding thereto can be used to prevent and treat diseases and conditions relating to cell senescence.

10 Claims, 0 Drawing figures
Exemplary Claim Number: 1,6

☐ 29. Document ID: US 5994100 A

L2: Entry 29 of 57 File: USPT Nov 30, 1999

US-PAT-NO: 5994100
DOCUMENT-IDENTIFIER: US 5994100 A

TITLE: HAS2 splicing variant HOEFC11: a target in chronic renal failure, inflammatory diseases and myocardial ischemia

DATE-ISSUED: November 30, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zhu; Yuan	Blue Bell	PA		
Nambi; Ponnal	Berwyn	PA		
Pullen; Mark A	Colmar	PA		

US-CL-CURRENT: 435/69.3; 435/252.3, 435/320.1, 435/325, 435/70.1, 435/71.1, 536/23.5

ABSTRACT:

HOEFC11 polypeptides and polynucleotides and methods for producing such polypeptides by recombinant techniques are disclosed. Also disclosed are methods for utilizing HOEFC11 polypeptides and polynucleotides in the design of protocols for the treatment of chronic renal failure, inflammatory diseases, myocardial ischemia, cancer, rheumatoid arthritis, cirrhotic liver disease, among others, and diagnostic assays for such conditions.

11 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 30. Document ID: US 5952203 A

L2: Entry 30 of 57 File: USPT Sep 14, 1999

US-PAT-NO: 5952203
DOCUMENT-IDENTIFIER: US 5952203 A

TITLE: Oligosaccharide synthesis using activated glycoside derivative, glycosyl transferase and catalytic amount of nucleotide phosphate

DATE-ISSUED: September 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Withers; Stephen G.	Vancouver			CA
Lougheed; Brenda	Vancouver			CA

US-CL-CURRENT: 435/97; 435/100, 435/101, 435/174, 435/179, 435/193

ABSTRACT:

Oligosaccharides are prepared using glycosyl transferase and activated glycosyl derivatives as donor sugars without the use of sugar nucleotides as donor sugars. A reaction mixture composition containing an activated glycoside derivative such as glycosyl fluoride or glycosyl mesylate, an acceptor substrate such as lactose or other oligosaccharide, a glycosyl transferase and a catalytic amount of a nucleotide phosphate or nucleotide phosphate analog is reacted to produce a glycosylated acceptor. In addition to an oligosaccharide, the acceptor substrate may be a monosaccharide, a fluorescent-labeled saccharide or a saccharide derivative such as an aminoglycoside antibiotic. The glycosyl transferase may be immobilized by removing its membrane-binding domain and attaching in its place a cellulose-binding domain. In a preferred embodiment, galactosyl transferase is the glycosyl transferase, .alpha.-D-galactosyl fluoride is the activated glycoside derivative and lactose is the acceptor substrate.

19 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 15

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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Terms	Documents
hyaluronan synthase or hyalouronic acid synthase	57

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☐ 31. Document ID: US 5948900 A

Using default format because multiple data bases are involved.

L2: Entry 31 of 57 File: USPT Sep 7, 1999

US-PAT-NO: 5948900
DOCUMENT-IDENTIFIER: US 5948900 A

TITLE: Streptococcus pneumoniae capsular polysaccharide genes and flanking regions

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yother; Janet	Birmingham	AL		
Dillard; Joseph	Hinsdale	IL		

US-CL-CURRENT: 536/24.32; 536/23.1, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 32. Document ID: US 5922577 A

L2: Entry 32 of 57 File: USPT Jul 13, 1999

US-PAT-NO: 5922577
DOCUMENT-IDENTIFIER: US 5922577 A

TITLE: Enzymatic synthesis of glycosidic linkages

DATE-ISSUED: July 13, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Defrees; Shawn	San Marcos	CA		
Bayer; Robert J.	San Diego	CA		
Ratcliffe; Murray	Carlsbad	CA		

US-CL-CURRENT: 435/97; 435/100, 435/101, 435/72, 435/74, 435/84

ABSTRACT:

The present invention provides improved methods for the formation of glycosidic linkages. These methods are useful for the preparation of compounds of formula:

NeuAc.alpha.(2.fwdarw.3)Gal.beta.(1.fwdarw.4)(Fuc.alpha. 1.fwdarw.3)GlcN(R').beta.(1.fwdarw.3)Gal.beta.--OR

35 Claims, 11 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 10

☐ 33. Document ID: US 5728554 A

L2: Entry 33 of 57 File: USPT Mar 17, 1998

US-PAT-NO: 5728554
DOCUMENT-IDENTIFIER: US 5728554 A

TITLE: Enzymatic synthesis of glycosidic linkages

DATE-ISSUED: March 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bayer; Robert J.	San Diego	CA		
DeFrees; Shawn	San Marcos	CA		
Ratcliffe; Murray	Carlsbad	CA		

US-CL-CURRENT: 435/97; 435/100, 435/101, 435/72, 435/74, 435/84

ABSTRACT:

The present invention provides improved methods for the formation of glycosidic linkages. These methods are useful for the preparation of compounds of formula:

NeuAc.alpha.(2.fwdarw.3)Gal.beta.(1.fwdarw.4)(Fuc.alpha. 1.fwdarw.3)GlcN(R').beta.(1.fwdarw.3)Gal.beta.-OR

28 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

☐ 34. Document ID: WO 2005035548 A1

L2: Entry 34 of 57 File: EPAB Apr 21, 2005

PUB-NO: WO2005035548A1

DOCUMENT-IDENTIFIER: WO 2005035548 A1
TITLE: THE MODUILATION OF HYALURONAN SYNTHESIS AND DEGRADATION IN THE TREATMENT OF DISEASE

PUBN-DATE: April 21, 2005

INVENTOR-INFORMATION:

NAME	COUNTRY
BROWN, TRACEY JEAN	AU
BROWNLEE, GARY RUSSELL	AU

INT-CL (IPC): C07 H 21/04; C07 H 21/02; C07 K 16/40; A61 K 31/7105; A61 K 31/711; A61 K 31/7115; A61 K 31/712; A61 K 31/7125; A61 K 31/395; A61 P 35/00
EUR-CL (EPC): A61K031/395; A61K031/7105, A61K031/711 , A61K031/7115 , A61K031/712 , A61K031/7125 , C07K016/40

ABSTRACT:

CHG DATE=20050503 STATUS=O>Modulation of Hyaluronan (HA) synthesis and degradation is disclosed by compounds and compositions that are capable of reducing the level of hyaluronan synthase (HAS) or hyaluronidase (HYAL) or the function or activity of HAS or HYAL. The compounds and compositions can also inhibit the expression of genetic material encoding these enzymes. The compounds and compositions comprise nucleic acid molecules and interactive molecules such as antibodies, small molecule inhibitors and substrate analogs of HAS and HYAL. The compounds and compositions are useful in the prophylaxis and/or treatment of inflammatory disorders including hyperproliferative conditions, such as but not limited to, cancer and psoriasis.

☐ 35. Document ID: EP 1522579 A2

L2: Entry 35 of 57 File: EPAB Apr 13, 2005

PUB-NO: EP001522579A2
DOCUMENT-IDENTIFIER: EP 1522579 A2
TITLE: Hyaluronan synthase gene and uses thereof

PUBN-DATE: April 13, 2005

INVENTOR-INFORMATION:

NAME	COUNTRY
WEIGEL, PAUL H	US
DEANGELIS, PAUL	US
KUMARI, KSHAMA	US

INT-CL (IPC): C12 N 9/10; C12 N 15/54; C12 N 15/70; C12 Q 1/68; A61 K 31/715; C12 P 21/00; C12 P 19/04
EUR-CL (EPC): C12N009/10; C12P019/26

ABSTRACT:

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 36. Document ID: WO 3060063 A2

L2: Entry 36 of 57 File: EPAB Jul 24, 2003

PUB-NO: WO003060063A2
DOCUMENT-IDENTIFIER: WO 3060063 A2
TITLE: HYALURONAN SYNTHASE GENES AND EXPRESSION THEREOF

PUBN-DATE: July 24, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
DEANGELIS, PAUL L	US
WEIGEL, PAUL H	US
KUMARI, KSHAMA	US

INT-CL (IPC): C12 N 0/
EUR-CL (EPC): C12N009/10

ABSTRACT:

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 37. Document ID: WO 3054163 A2

L2: Entry 37 of 57 File: EPAB Jul 3, 2003

PUB-NO: WO003054163A2
DOCUMENT-IDENTIFIER: WO 3054163 A2
TITLE: METHODS FOR PRODUCING HYALURONAN IN A RECOMBINANT HOST CELL

PUBN-DATE: July 3, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
SLOMA, ALAN	
BEHR, REGINE	
WIDNER, WILLIAM	
TANG, MARIA	
STERNBERG, DAVID	
BROWN, STEPHEN	

INT-CL (IPC): C12 N 0/

EUR-CL (EPC): C12N009/10; C12N015/52, C12P019/26

ABSTRACT:

CHG DATE=20031129 STATUS=O>The present invention relates to methods for producing a hyaluronic acid, comprising: (a) cultivating a Bacillus host cell under conditions suitable for production of the hyaluronic acid, wherein the Bacillus host cell comprises a nucleic acid construct comprising a hyaluronan synthase encoding sequence operably linked to a promoter sequence foreign to the hyaluronan synthase encoding sequence; and (b) recovering the hyaluronic acid from the cultivation medium. The present invention also relates to an isolated nucleic acid sequence encoding a hyaluronan synthase operon comprising a hyaluronan synthase gene and a UDP-glucose 6-dehydrogenase gene, and optionally one or more genes selected from the group consisting of a UDP-glucose pyrophosphorylase gene, UDP-N-acetylglucosamine pyrophosphorylase gene, and glucose-6-phosphate isomerase gene. The present invention also relates to isolated nucleic acid sequences encoding a UDP-glucose 6-dehydrogenase, UDP-glucose pyrophosphorylase, and UDP-N-acetylglucosamine pyrophosphorylase.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 38. Document ID: WO 3048330 A2

L2: Entry 38 of 57 File: EPAB Jun 12, 2003

PUB-NO: WO003048330A2
DOCUMENT-IDENTIFIER: WO 3048330 A2
TITLE: HYALURONAN SYNTHASES AND METHODS OF MAKING AND USING SAME

PUBN-DATE: June 12, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
WEIGEL, PAUL H	US
KUMARI, KSHAMA	US

INT-CL (IPC): C12 N 0/
EUR-CL (EPC): C12N009/10; C12P019/26

ABSTRACT:

CHG DATE=20041005 STATUS=O>A functionally active hyaluronan synthase having at least one modified amino acid residue therein as compared to a corresponding functionally active native hyaluronan synthase such that the functionally active hyaluronan synthase has an altered enzymatic activity as compared to the corresponding functionally active native hyaluronan synthase is disclosed. Methods of producing hyaluronic acid utilizing a recombinant host cell having an expression construct encoding the functionally active hyaluronan synthase with altered enzymatic activity are also disclosed.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 39. Document ID: WO 3006068 A1

L2: Entry 39 of 57 File: EPAB Jan 23, 2003

PUB-NO: WO003006068A1
DOCUMENT-IDENTIFIER: WO 3006068 A1
TITLE: GENE THERAPY FOR DRY EYE SYNDROME

PUBN-DATE: January 23, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
DEHAZYA, PHILIP	US
CHEN, WEILIAM	US

INT-CL (IPC): A61 K 48/00; A61 K 35/00; C12 N 15/85; C07 H 15/12
EUR-CL (EPC): A61K048/00; A61K047/48

ABSTRACT:

The present invention provides bioconjugates comprising substances which provide increased safety and bioavailability of nucleic acids when used in gene therapy applications. The dihydrazide derivatized hyaluronic acid/nucleic acid compositions of the present invention include hyaluronic acid which has been derivatized with a dihydrazide, preferably adipic dihydrazide, which is crosslinked to a nucleic acid. These compositions may be included in microsphere, film, wafer, matrix, hydrogel, gel and sol formulations. These bioconjugates are useful in gene therapy applications for the treatment of a variety of medical conditions including dry eye syndrome or other medical conditions wherein in increase in the production of hyaluronic acid in the eye would be therapeutic. Further, there may be other medical conditions which could benefit from increased production of hyaluronan, such as osteoarthritis of the articular joints. In the treatment of dry eye syndrome, the compositions of the invention include a hyaluronan synthase gene. When cells in the eye are transfected with and express hyaluronan synthase, hyaluronic acid production is a result. Hyaluronic acid production in the eye provides a therapeutic effect in the treatment of dry eye syndrome by augmenting production of or composition of the ocular tear film. Production of the compositions of the invention is also possible in a process which is easily modified for production of large quantities of dihydrazide derivatized hyaluronic acid.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 40. Document ID: WO 9951265 A1

L2: Entry 40 of 57 File: EPAB Oct 14, 1999

PUB-NO: WO009951265A1
DOCUMENT-IDENTIFIER: WO 9951265 A1
TITLE: NUCLEIC ACID ENCODING HYALURONAN SYNTHASE AND METHODS OF USE

PUBN-DATE: October 14, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
DEANGELIS, PAUL	

INT-CL (IPC): A61 K 39/02; C12 Q 1/68; C12 N 1/00; C12 N 1/15; C12 N 5/10; C12 N 9/10; C12 N 15/54; C12 N 15/63; C12 P 19/04
EUR-CL (EPC): A61K039/102; C12N009/10, C12N009/10 , C12P019/04 , C12Q001/68

ABSTRACT:

CHG DATE=20031203 STATUS=O>The present invention relates to a nucleic acid segment having a coding region segment encoding enzymatically active bacterial multocida hyaluronate synthase (PmHAS), and to the use of this nucleic acid segment in the preparation of recombinant cells which produce hyaluronate synthase and its hyaluronic acid product. Hyaluronate is also known as hyaluronic acid or hyaluronan. The present invention also relates to the use of the PmHAS in constructing "knock-out" mutant strains of P. multocida for use in vaccinations. The present invention further relates to the use of the PmHAS in diagnostic tests in the field determinations of livestock P. multocida infection.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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☐ 41. Document ID: WO 9923227 A2

L2: Entry 41 of 57 File: EPAB May 14, 1999

PUB-NO: WO009923227A2
DOCUMENT-IDENTIFIER: WO 9923227 A2
TITLE: HYALURONAN SYNTHASE GENE AND USES THEREOF

PUBN-DATE: May 14, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
WEIGEL, PAUL H	
KUMARI, KSHAMA	
DEANGELIS, PAUL	

INT-CL (IPC): C12 N 15/54; C12 N 9/10; C12 P 21/00; C12 Q 1/68; C12 P 19/04
EUR-CL (EPC): A61K039/102; C12N009/10, C12N009/10 , C12P019/04

ABSTRACT:

CHG DATE=19990702 STATUS=O>The present invention relates to a nucleic acid segment having a coding region segment encoding enzymatically active Streptococcus equisimilis hyaluronate synthase (seHAS), and to the use of this nucleic acid segment in the preparation of recombinant cells which produce hyaluronate synthase and its hyaluronic acid product. Hyaluronate is also known as hyaluronic acid or hyaluronan.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. D

☐ 42. Document ID: EP 893506 A1

L2: Entry 42 of 57 File: EPAB Jan 27, 1999

PUB-NO: EP000893506A1
DOCUMENT-IDENTIFIER: EP 893506 A1
TITLE: POLYPEPTIDE OF HUMAN-ORIGIN HYALURONATE SYNTHETASE AND DNA ENCODING THE SAME

PUBN-DATE: January 27, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
TANO, NAOKI	JP
KIMATA, KOJI	JP

INT-CL (IPC): C12 N 15/56; C12 N 9/24
EUR-CL (EPC): C12N009/10

ABSTRACT:

CHG DATE=19990905 STATUS=O> A DNA encoding at least part of a hyaluronan synthase of human origin, particularly encoding the whole or a part of an amino acid sequence shown by SEQ ID NO: 4. A polypeptide of the hyaluronan synthase of human origin, which is encoded by the DNA, may have a substitution, deletion or insertion of one or more amino acid residues that does not substantially lower an activity of synthesizing hyaluronan. A polypeptide of the hyaluronan synthase of human origin or a part thereof encoded by the DNA is also provided.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. D

☐ 43. Document ID: WO 9800551 A2

L2: Entry 43 of 57 File: EPAB Jan 8, 1998

PUB-NO: WO009800551A2
DOCUMENT-IDENTIFIER: WO 9800551 A2
TITLE: GENE ENCODING HYALURONAN SYNTHASE

PUBN-DATE: January 8, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
MCDONALD, JOHN A	US
SPICER, ANDREW P	US
AUGUSTINE, MARY LOUISE	US

INT-CL (IPC): C12 N 15/54; C12 N 9/10; C12 N 5/10; C12 N 15/85; A61 K 38/43; C12 Q 1/68
EUR-CL (EPC): C12N009/10

ABSTRACT:

CHG DATE=19990617 STATUS=O>An isolated and purified DNA molecule encoding hyaluronan synthase-2 (Has2) is provided, as is purified and isolated Has2 polypeptide. Also provided is an isolated and purified DNA molecule encoding hyaluronan synthase-3 (Has3), as is purified and isolated Has3 polypeptide.

☐ 44. Document ID: WO 9740174 A1

L2: Entry 44 of 57 File: EPAB Oct 30, 1997

PUB-NO: WO009740174A1
DOCUMENT-IDENTIFIER: WO 9740174 A1
TITLE: MAMMALIAN HYALURONAN SYNTHASES, NUCLEIC ACIDS, USES THEREOF

PUBN-DATE: October 30, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
BRISKIN, MICHAEL J	

INT-CL (IPC): C12 N 15/54; C12 N 5/10; C12 N 9/10; C07 K 16/40; G01 N 33/573; C12 P 19/04
EUR-CL (EPC): C12N009/10

ABSTRACT:

CHG DATE=19990617 STATUS=O>The present invention relates to an isolated or recombinant nucleic acid which encodes a mammalian hyaluronan synthase (e.g., human). The present invention also relates to a host cell comprising the nucleic acid encoding mammalian hyaluronan synthase. The present invention also relates to a method for producing a mammalian hyaluronan synthase comprising introducing into a host cell a nucleic acid construct comprising a nucleic acid which encodes a mammalian hyaluronan synthase, whereby a recombinant host cell is produced having said coding sequence operably linked to at least one expression control sequence; and maintaining the host cells produced in a suitable medium under conditions whereby the nucleic acid is expressed. The present invention also relates to an antibody or functional portion thereof which binds mammalian hyaluronan synthase. The present invention also relates to a method of detecting mammalian hyaluronan synthase in a sample comprising contacting a sample with an antibody which binds hyaluronan synthase under conditions suitable for specific binding of said antibody to the mammalian hyaluronan synthase; and detecting antibody-mammalian hyaluronan synthase. The invention further relates to a method of using hyaluronan synthase to make hyaluronan.

☐ 45. Document ID: US 20050287646 A1

L2: Entry 45 of 57 File: DWPI Dec 29, 2005

DERWENT-ACC-NO: 2006-065757
DERWENT-WEEK: 200608

TITLE: New recombinant host cell comprising Bacillus subtilis cell transformed with recombinant vector comprising purified nucleic acid segment encoding hyaluronan synthase, useful for producing hyaluronic acid

INVENTOR: DEANGELIS, P; KUMARI, K ; WEIGEL, P H

PRIORITY-DATA: 1999US-0469200 (December 21, 1999), 1997US-0899040 (July 23, 1997), 2001US-0879959 (September 12, 2001), 2005US-0120422 (May 2, 2005)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20050287646 A1	December 29, 2005		047	C12P019/28

INT-CL (IPC): C08 B 37/00; C12 N 1/21; C12 P 19/28

ABSTRACTED-PUB-NO: US20050287646A
BASIC-ABSTRACT:

NOVELTY - A recombinant host cell (I), comprising a Bacillus subtilis cell transformed with a recombinant vector comprising purified nucleic acid segment with a coding region encoding enzymatically active hyaluronan synthase, where coding region encodes single protein that is a dual-action catalyst that utilizes uridine diphosphate (UDP)-glucuronic acid (GlcA) and UDP-N-acetylglucosamine (GlcNAc) to synthesize hyaluronic acid (HA), is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a recombinant method (M1) for producing hyaluronic acid, comprising introducing a purified nucleic acid segment having a coding region encoding enzymatically active hyaluronan synthase into a B.subtilis strain, where the coding region encodes a single protein that is a dual-action catalyst that utilizes UDP-GlcA and UDP-GlcNAc to synthesize HA, growing the B.subtilis strain in a medium to secrete HA and removing the secreted HA.

ACTIVITY - Antiarthritic; Ophthalmological. No supporting data is given.

MECHANISM OF ACTION - None given.

USE - (I) is useful for producing hyaluronic acid, which is useful as an intra-articular matrix supplement, as a replacement for vitreous fluid in eye surgery, in the manufacture of cosmetics and for treating severe arthritis.

☐ 46. Document ID: WO 2005035548 A1

L2: Entry 46 of 57 File: DWPI Apr 21, 2005

DERWENT-ACC-NO: 2005-315540
DERWENT-WEEK: 200532

TITLE: Novel compound capable of reducing level, function or activity of hyaluronan synthase or hyaluronidase, useful for treating cancer, hyperproliferative condition, , A-beta-lipoproteinemia, A-V, A beta-2-microglobulin amyloidosis

INVENTOR: BROWN, T J; BROWNLEE, G R

PRIORITY-DATA: 2003AU-0906658 (December 1, 2003), 2003AU-0905551 (October 10, 2003)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2005035548 A1	April 21, 2005	E	277	C07H021/04

INT-CL (IPC): A61 K 31/395; A61 K 31/7105; A61 K 31/711; A61 K 31/7115; A61 K 31/712; A61 K 31/7125; A61 P 35/00; C07 H 21/02; C07 H 21/04; C07 K 16/40

ABSTRACTED-PUB-NO: WO2005035548A
BASIC-ABSTRACT:

NOVELTY - An isolated compound (I) capable of reducing the level of hyaluronan synthase (HAS) or hyaluronidase (HYAL) or the function or activity of HAS or HYAL, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a pharmaceutical composition (PC1) comprising (I), carriers and/or diluents.

ACTIVITY - Anabolic; Hypertensive; Gynecological; Neuroprotective; Antianemic; Cytostatic; Antiinflammatory; Endocrine-Gen.; Immunosuppressive. Mice intradermally inoculated with parental or mock-transfected MDA-MB 231 readily established primary tumours that were comparable in growth over the duration of the 12-week experiment. In contrast, however, mice inoculated with ASHAS2 transfectants did not establish primary tumours. To ensure that the lack of tumor growth was not a result of a poor cell viability of the cell inoculum, in one set of experiments, Matrigel was also included in the inoculation medium. Again, no primary tumor was detected over the duration of the 12-week experiment. When quantitating the spread of the primary cancer, the highly sensitive Alu PCR assay demonstrated that metastasis in animals inoculated with parental and mock-transfected was most prevalent in brain and lung, but was also detected in kidneys and liver transfectants. Mice injected with MDA-MB 231 ASHAS2 did not exhibit metastasis to any organs.

MECHANISM OF ACTION - Modulator of hyaluronan synthesis.

USE - (I) is useful for treating cancer, hyperproliferative condition or an inflammatory condition. (I) is useful for treating or prophylaxis of a condition in subject, which involves administering to the subject, an HAS and/or HYAL level-reducing or HAS and/or HYAL activity-reducing effective amount of (I). The subject is human. The condition includes A- beta -lipoproteinemia, A-V, A beta -2-microglobulin amyloidosis, A-T, A1AD, A1AT, Aagenaes, Aarskog syndrome, Aarskog-Scott Syndrome, Aase-smith syndrome, Aase Syndrome, AAT, Abderhalden-Kaufmann-Lignac Syndrome, Abdominal Muscle Deficiency Syndrome, Abdominal Wall Defect, Abdominal Epilepsy, Abdominal Migraine, Abductor Spasmodic Dysphonia, Abductor

Spastic Dysphonia, Abercrombie syndrome, Bblepharon-Macrostomia Syndrome, Addison's disease, Amenorrhea, Amyotrophic Lateral Sclerosis, Anemia, etc. The condition is chosen from hyperproliferative condition, an inflammatory condition and cancer. The manufacture of a medicament for the treatment or phophylaxis of a condition exacerbated by HA (all claimed).

DESCRIPTION OF DRAWING(S) - The figure is graph representing the effect of HAS-antisense inhibition on tumorigenicity and metastasis in MDA-MB 231.

☐ 47. Document ID: CA 2441681 A1, US 20050003368 A1

L2: Entry 47 of 57 File: DWPI Nov 22, 2004

DERWENT-ACC-NO: 2005-074424
DERWENT-WEEK: 200509

TITLE: Detecting expression of hyaluronan synthase (HAS) isoenzyme variants in cell/cell population, by contacting agent binding to HAS isoenzyme variant genomic products with cell, detecting complex of agent and genomic product

INVENTOR: ADAMIA, S; BELCH, A R ; HAY, M ; PILARSKI, L ; REIMAN, T ; BELCH, A

PRIORITY-DATA: 2003US-472401P (May 22, 2003), 2003US-0672399 (September 25, 2003)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CA 2441681 A1	November 22, 2004	E	000	C12N015/54
US 20050003368 A1	January 6, 2005		054	C12Q001/68

INT-CL (IPC): A61 K 31/496; A61 K 31/7088; A61 K 31/728; A61 K 38/16; A61 K 39/395; A61 K 45/00; A61 K 48/00; C12 N 15/54; C12 Q 1/02; C12 Q 1/68; G01 N 33/53

ABSTRACTED-PUB-NO: US20050003368A
BASIC-ABSTRACT:

NOVELTY - Detecting (M1) expression of hyaluronan synthase (HAS) isoenzyme variants in a cell or cell population, involves contacting an agent capable of selectively binding to HAS isoenzyme variant genomic products with a sample of cell or cell population, then detecting the presence of complex formed between the agent and the HAS isoenzyme variant genomic product.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) detecting (M2) expression of HAS1 isoenzyme variants, involves mixing a cell or sample of cell populate from a human with reverse transcriptase in conditions enabling conversion of mRNA to DNA templates, thus generating cDNA templates, mixing the cDNA with at least two oligonucleotide primers specific for HAS1, where primers are selected so as to enable generation of amplified fragments of differing size for each HAS1 isoenzyme variant, reacting the mixture with enzymes and compounds to enable specific fragments of DNA to be increased in number, and detecting the presence of an increased number of resulting DNA fragments of particular size associated with the presence of particular HAS1 isoenzyme variants;

(2) detecting (M3) expression of HAS1Va isoenzyme variant in a cell or cell population, involves detecting single nucleotide polymorphism (SNP) of the HAS1Va gene;

(3) detecting (M4) disease, involves characterizing HAS isoenzyme and isoenzyme variant expression in a cell or cell population;

(4) detecting (M5) susceptibility to disease, involves:

(a) characterizing HAS isoenzyme or isoenzyme variant expression in a cell or cell population, or

(b) detecting SNP within the HAS1Va gene;

(5) determining chance of poor clinical outcome in a human suffering from multiple myeloma, involves characterizing HAS isoenzyme or isoenzyme variant expression in a cell or cell population;

(6) an isolated and purified DNA molecule (I) comprising a DNA segment encoding a human HAS variant or its enzymatically active fragment, where the DNA molecule hybridizes under stringent conditions to a fully defined sequence of 1071, 1083 or 1065 base pairs as given in the specification or its complement;

(7) an isolated and purified DNA molecule (II) comprising a DNA segment capable of selectively binding to the mRNA of human HAS1 or its nucleotide product, allowing, when used in conjunction with a corresponding downstream DNA segment capable of selectively binding to mRNA of HAS1 or its nucleotide product, DNA fragment amplification and identification of HAS1 isoenzyme variants, where the DNA molecule hybridizes under stringent conditions to cgggcttgtcagagctactt (S1) or agggcgtctctgagtagcag (S2);

(8) treating (M6) a patient experiencing disease, involves characterizing HAS1 isoenzyme variant expression in a cell or cell population, evaluating aberrant HAS1 isoenzyme variant expression, and administering compounds to the cell or cell population resulting in diminished HAS1 isoenzyme variant activity;

(9) treating (M7) a patient susceptible to disease, involves characterizing HAS1 isoenzyme variant expression in a cell or cell population, evaluating aberrant HAS1 isoenzyme variant expression, and administering one or more compounds to the cell or cell population resulting in diminished HAS1 isoenzyme variant activity;

(10) monitoring (M8) malignant cells in a human, involves detecting HAS isoenzymes or isoenzyme variants in a sample of cells or cell populate from a human; and

(11) a kit (K1) for:

(a) characterizing HAS isoenzyme or isoenzyme variant expression in a cell or cell population, comprising (I) or (II), compounds and enzymes sufficient to enable specific fragments of DNA to be increased in number, and instructions enabling one to amplify and identify HAS isoenzyme or isoenzyme variant specific fragments, or peptides capable of binding selectively to, and thus distinguishing, HAS isoenzyme or isoenzyme variant proteins, compounds sufficient to enable formation and identification of complex formed between the complex formed between the peptide and HAS isoenzyme or isoenzyme variant protein, and instructions enabling one to identify HAS isoenzyme or isoenzyme variant proteins; or

(b) for characterizing HAS isoenzyme variant expression in a cell or cell population, comprising nucleotides capable of binding selectively to, and thus

distinguishing HAS isoenzyme or isoenzyme variant transcripts, compounds sufficient to enable formation and identification of complex formed between the nucleotides and HAS isoenzyme variant transcripts, and instructions enabling one to identify HAS isoenzyme variant expression.

ACTIVITY - Cytostatic. No supporting data is given.

MECHANISM OF ACTION - Inhibitor of HAS isoenzyme or isoenzyme variant activity.

USE - (M1) is useful for detecting expression of HAS isoenzyme variants in a cell or cell population. (M6) is useful for treating a patient experiencing disease characterized by aberrant HAS1 isoenzyme variant expression. (M7) is useful for treating a patient susceptible to disease characterized by aberrant HAS1 isoenzyme variant expression. (M8) is useful for monitoring malignant cells in a human, who is suffering from multiple myeloma or Waldenstrom's macroglobulinemia (claimed). (M6) or (M7) is useful for treating multiple myeloma or Waldenstrom's macroglobulinemia. K1 comprising (I) or (II) is useful in characterizing HAS isoenzyme or isoenzyme variant expression in a cell or cell population.

☐ 48. Document ID: EP 1572931 A2, WO 2004003158 A2, AU 2003245733 A1

L2: Entry 48 of 57 File: DWPI Sep 14, 2005

DERWENT-ACC-NO: 2004-071977
DERWENT-WEEK: 200560

TITLE: Novel isolated WISP-1 antagonist inhibits or neutralizes induction of secretion of HAS2, HA, CD44 or RHAMM by native WISP-1 polypeptide in one or more type of mammalian cell, useful for treating cancer

INVENTOR: DESNOYER, L; FILVAROFF, E

PRIORITY-DATA: 2002US-408739P (September 6, 2002), 2002US-392652P (June 29, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1572931 A2	September 14, 2005	E	000	C12N001/00
WO 2004003158 A2	January 8, 2004	E	114	C12N000/00
AU 2003245733 A1	January 19, 2004		000	C12N000/00

INT-CL (IPC): C12 N 0/00; C12 N 1/00

ABSTRACTED-PUB-NO: WO2004003158A
BASIC-ABSTRACT:

NOVELTY - An isolated WISP-1 antagonist (I) which inhibits or neutralizes induction of secretion of hyaluronan synthase 2 (HAS2), HA, CD44 or RHAMM by native WISP-1 polypeptide in one or more type of mammalian cell, is new. (I) is chosen from an anti-WISP-1 antibody, a WISP-1 immunoadhesin and a WISP-1 variant.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a composition (II) comprising (I) and a carrier;

(2) a monoclonal antibody comprising the 3D11, 11C2, 9C10, 5D4, or 9C11 antibody secreted by the hybridoma deposited with ATCC as accession number PTA-4624, PTA-4628, PTA-4626, PTA-4625, or PTA-4627, respectively;

(3) a monoclonal antibody which binds to the same epitope as the epitope to which the 3D11, 11C2, 9C10, 5D4, or 9C11 monoclonal antibody produced by the hybridoma cell line deposited as ATCC accession number PTA-4624, PTA-4628, PTA-4626, PTA-4625, or PTA-4627, respectively binds;

(4) hybridoma cell line which produces monoclonal antibody 3D11, 11C2, 9C10, 5D4, or 9C11 produced by the hybridoma cell line deposited as ATCC accession number PTA-4624, PTA-4628, PTA-4626, PTA-4625, or PTA-4627, respectively;

(5) an isolated anti-WISP-1 antibody comprising an antibody which binds to WISP-1 polypeptide and competitively inhibits binding of the monoclonal antibody 3D11, 11C2, 9C10, 5D4, or 9C11 produced by the hybridoma cell line deposited as ATCC accession number PTA-4624, PTA-4628, PTA-4626, PTA-4625, or PTA-4627, respectively, to the WISP-1 polypeptide; and

(6) a chimeric anti-WISP-1 antibody (III) which specifically binds to WISP-1 polypeptide and the antibody comprises a sequence derived from the 3D11, 11C2, 9C10, 5D4, or 9C11 monoclonal antibody produced by the hybridoma cell line deposited as ATCC accession number PTA-4624, PTA-4628, PTA-4626, PTA-4625, or PTA-4627, respectively.

ACTIVITY - Cytostatic.

No biological data is given.

MECHANISM OF ACTION - Inhibitor of HAS2, CD44, RHAMM mRNA expression, CD44 protein synthesis, and HA secretion.

USE - (I) is useful for inhibiting or neutralizing WISP-1 induction of secretion of HAS2, HA, CD44 or RHAMM in mammalian cells, which involves exposing the mammalian cells to an effective amount of (I). (I) is also useful for treating cancer in a mammal which involves administering to the mammal an effective amount of (I). The WISP-1 immunoadhesin comprises a WISP-1 sequence fused to a Fc region of an immunoglobulin. The mammalian cells comprise cancer cells such as colon or colorectal cancer cells, breast cancer cells, lung cancer cells or brain cancer cells. (I) inhibits or reduces cancer cell growth or metastasis. (I) comprises a WISP-1 immunoadhesin. (I) comprises a human WISP-1 sequences fused to a Fc region of an immunoglobulin. The antagonist inhibits or neutralize induction of secretion of HAS2, HA, CD44 or RHAMM by native human WISP-1 polypeptide in one or more type of mammalian cell. (I) inhibits or reduces lung cancer cell metastasis at a site in the mammal secondary or different from the primary lung tumor site in the mammal. Chemotherapy, radiation, prodrug, cytotoxic agent, growth inhibitory agent, or cytokine is also administered to the mammal. (All claimed.)

DESCRIPTION OF DRAWING(S) - The drawing shows time course of HA accumulation in NRK/WISP-1H and NRK/control media.

☐ 49. Document ID: CN 1636052 A, WO 2003054163 A2, US 20030175902 A1, AU 2002366711 A1, CZ 200400765 A3, KR 2004085142 A, EP 1572895 A2, JP 2005525091 W

L2: Entry 49 of 57 File: DWPI Jul 6, 2005

DERWENT-ACC-NO: 2003-559139
DERWENT-WEEK: 200574

TITLE: Producing a hyaluronic acid (e.g. for use in eye and joint surgery, orthopedics, rheumatology or dermatology) comprises cultivating a Bacillus host cell and recovering the hyaluronic acid from the cultivation medium

INVENTOR: BEHR, R; BROWN, S ; SLOMA, A ; STERNBERG, D ; TANG, M ; WIDNER, W ; WINDER, W

PRIORITY-DATA: 2001US-342644P (December 21, 2001), 2002US-0326185 (December 20, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CN 1636052 A	July 6, 2005		000	C12N001/21
WO 2003054163 A2	July 3, 2003	E	109	C12N000/00
US 20030175902 A1	September 18, 2003		000	C12P019/26
AU 2002366711 A1	July 9, 2003		000	C12N000/00
CZ 200400765 A3	December 15, 2004		000	C12N001/00
KR 2004085142 A	October 7, 2004		000	C12P019/26
EP 1572895 A2	September 14, 2005	E	000	C12N001/00
JP 2005525091 W	August 25, 2005		086	C12N015/09

INT-CL (IPC): C12 N 0/00; C12 N 1/00; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 9/04; C12 N 9/16; C12 N 9/24; C12 N 15/09; C12 N 15/74; C12 P 19/04; C12 P 19/26

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 50. Document ID: WO 2003048330 A2, US 20030235893 A1, AU 2002359581 A1, EP 1478746 A2, CN 1596307 A

L2: Entry 50 of 57 File: DWPI Jun 12, 2003

DERWENT-ACC-NO: 2003-482708
DERWENT-WEEK: 200607

TITLE: Novel functionally active hyaluronan synthase having at least one modified amino acid residue in it as compared to a corresponding functionally active native hyaluronan synthase, useful for producing hyaluronic acid

INVENTOR: KUMARI, K; WEIGEL, P H

PRIORITY-DATA: 2001US-0011771 (December 11, 2001), 2001US-336105P (December 3, 2001), 2002US-0309560 (December 3, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2003048330 A2	June 12, 2003	E	362	C12N000/00
US 20030235893 A1	December 25, 2003		000	C12P019/04
AU 2002359581 A1	June 17, 2003		000	C12N000/00
EP 1478746 A2	November 24, 2004	E	000	C12N009/20
CN 1596307 A	March 16, 2005		000	C12N009/10

INT-CL (IPC): C12 N 0/00; C12 N 9/10; C12 N 9/20; C12 N 15/87; C12 P 19/04

ABSTRACTED-PUB-NO: WO2003048330A
BASIC-ABSTRACT:

NOVELTY - A functionally active hyaluronan synthase (I) having at least one modified amino acid residue in it or having altered enzymatic activity as compared to a corresponding functionally active native hyaluronan synthase, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a host cell (II) comprising (I) incorporated in it such that (II) is capable of producing hyaluronan;

(2) producing (I); and

(3) producing (M) hyaluronic acid, by providing a host cell having at least one expression construct comprising a hyaluronan synthase gene encoding (I) incorporated in it such that the host cell is capable of producing hyaluronan, and culturing the host cell under appropriate conditions for the production of hyaluronic acid.

USE - (I) or (II) is useful for producing hyaluronic acid.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 51. Document ID: US 20030092118 A1, WO 2003060063 A2, AU 2002365206 A1, EP 1481052 A2, JP 2005514059 W, CN 1620511 A, US 6951743 B2

L2: Entry 51 of 57 File: DWPI May 15, 2003

DERWENT-ACC-NO: 2003-755179
DERWENT-WEEK: 200607

TITLE: Recombinant host cell is a Bacillus cell comprising a recombinant vector having purified nucleic acid segment with a coding region encoding enzymatically active hyaluronan synthase

INVENTOR: DEANGELIS, P L; KUMARI, K ; WEIGEL, P H

PRIORITY-DATA: 2002US-0172527 (June 13, 2002), 1997US-064435P (October 31, 1997), 1998US-0178851 (October 26, 1998), 1999US-0469200 (December 21, 1999), 2001US-297744P (June 13, 2001), 2001US-297788P (June 13, 2001), 2001US-305285P (July 13, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030092118 A1	May 15, 2003		079	C12N015/74
WO 2003060063 A2	July 24, 2003	E	000	C12N000/00
AU 2002365206 A1	July 30, 2003		000	C12N015/74
EP 1481052 A2	December 1, 2004	E	000	C12N001/00
JP 2005514059 W	May 19, 2005		177	C12N015/09
CN 1620511 A	May 25, 2005		000	C12P021/06
US 6951743 B2	October 4, 2005		000	C12P019/52

INT-CL (IPC): C07 H 21/04; C07 K 1/00; C12 N 0/00; C12 N 1/00; C12 N 1/20; C12 N 1/21; C12 N 9/00; C12 N 9/10; C12 N 15/00; C12 N 15/09; C12 N 15/63; C12 N 15/70; C12 N 15/74; C12 P 19/04; C12 P 19/26; C12 P 19/52; C12 P 21/06

ABSTRACTED-PUB-NO: US20030092118A
BASIC-ABSTRACT:

NOVELTY - A recombinant host cell (I) is a Bacillus cell comprising a recombinant vector having a purified nucleic acid segment with a coding region encoding enzymatically active hyaluronan synthase (HAS) of a fully defined sequence of 419 amino acids as given in the specification, where the coding region is under control of a promoter.

DETAILED DESCRIPTION - A recombinant host cell (I) is a Bacillus cell comprising:

(a) a recombinant vector having a purified nucleic acid segment with a coding region encoding enzymatically active HAS of a fully defined sequence (S1) of 419 amino acids as given in the specification, where the coding region is under control of a promoter;

(b) a recombinant vector comprising a purified nucleic acid segment having a coding region encoding enzymatically active Streptococcus pyogenes HAS of (S1), and a recombinant vector comprising a purified nucleic acid segment having a coding region encoding enzymatically active UDP-glucose dehydrogenase;

(c) a recombinant vector introduced into it, (I) comprising a purified nucleic acid segment having a coding region encoding enzymatically active S.pyogenes HAS of (S1), and a coding region encoding enzymatically active UDP-glucose dehydrogenase;

(d) an enhanced production of at least one of UDP- glucuronic acid (GlcUA) and UDP-N-acetylglucosamine (GlcNAc), (I) further having purified nucleic acid segment with a coding region encoding an enzymatically active S.pyogenes HAS of (S1) introduced into it;

(e) a recombinant vector having a purified nucleic acid segment with coding region encoding enzymatically active HAS of a fully defined sequence (S2) of 972 amino acids as given in the specification, where the coding region is under control of a promoter;

(f) a recombinant vector having a purified nucleic acid segment with the coding region encoding enzymatically active Pasturella multocida HAS of (S2), and a recombinant vector having a purified nucleic acid segment with a coding region encoding enzymatically active UDP-glucose dehydrogenase;

(g) a purified nucleic acid segment having a coding region encoding enzymatically active P.multocida HAS of (S2), and a coding region encoding enzymatically active UDP-glucose dehydrogenase;

(h) an enhanced production of at least one of UDP-GlcUA and UDP-GlcNAc, (I) further having a purified nucleic acid segment with a coding region encoding a enzymatically active P.multocida HAS of (S2) introduced in it;

(i) a recombinant vector having a purified nucleic acid segment with a coding region encoding enzymatically active HAS of (S3), where the coding region is under control of a promoter;

(j) a recombinant vector having a purified nucleic acid segment with a coding region encoding enzymatically active S.uberis HAS of a fully defined sequence (S3) of 417 amino acids as given in the specification, and a recombinant vector comprising a purified nucleic acid segment having a coding region encoding enzymatically active UDP-glucose dehydrogenase; and

(k) a purified nucleic acid segment having a coding region encoding enzymatically active S.uberis HAS of (S3), and a coding region encoding enzymatically active UDP-glucose dehydrogenase; or (l) an enhanced production of at least UDP-GlcUA and UDP-GlcNAc, (I) further having a recombinant vector comprising a purified nucleic acid segment with coding a region encoding an enzymatically active S.uberis HAS of (S3) introduced in it.

INDEPENDENT CLAIMS are also included for the following:

(1) producing (M1) hyaluronic acid (HA) involves introducing a purified nucleic acid segment having a coding region encoding enzymatically active HAS of (S1), (S2) or (S3) into a Bacillus host where the coding region is under control of promoter, introducing a purified nucleic acid segment having a coding region encoding enzymatically active UDP-glucose dehydrogenase into the Bacillus host, growing the host organism in a medium to secrete HA, and recovering the secreted HA;

(2) producing (M2) HA involves introducing a purified nucleic acid segment having a coding region encoding enzymatically active S.pyogenes HAS of (S1), P.multocida HAS of (S2) or S.uberis HAS of (S3), into a Bacillus host, where the Bacillus host has an enhanced production of at least one of UDP-GluUA and UDP-GlcNAc, growing the Bacillus host in a medium to secrete HA, and recovering the secreted HA; and

(3) HA prepared by (M2).

USE - (I) is useful for producing HA (claimed).

DESCRIPTION OF DRAWING(S) - The figure shows kinetic analysis of the hyaluronic acid size distributions produced by Streptococcus equisimilis hyaluronan synthase (HAS) and S.pyogenes HAS.

☐ 52. Document ID: US 20030087850 A1

L2: Entry 52 of 57 File: DWPI May 8, 2003

DERWENT-ACC-NO: 2003-755151
DERWENT-WEEK: 200371

TITLE: Dihydrazide derivatized hyaluronic acid/nucleic acid bioconjugate comprising derivatized hyaluronic acid cross linked to nucleic acid encoding hyaluronan synthase useful for treating dry eye syndrome

INVENTOR: CHEN, W; DEHAZYA, P

PRIORITY-DATA: 2001US-0902939 (July 10, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030087850 A1	May 8, 2003		031	A61K048/00

INT-CL (IPC): A61 K 48/00; C07 H 21/04; C08 B 37/00

ABSTRACTED-PUB-NO: US20030087850A
BASIC-ABSTRACT:

NOVELTY - A dihydrazide derivatized hyaluronic acid/nucleic acid bioconjugate comprising derivatized hyaluronic acid cross linked to nucleic acid encoding hyaluronan synthase which has 66%, 90% or 89% sequence homology to a fully defined reference amino acid sequence of 583, 552 or 554 amino acids, respectively, given in the specification, is new.

DETAILED DESCRIPTION - Dihydrazide derivatized hyaluronic acid/nucleic acid bioconjugate (I) comprising derivatized hyaluronic acid crosslinked to a nucleic acid which comprises a gene encoding a protein having hyaluronan synthase activity, where the nucleic acid is a member chosen from nucleotide sequence having 85% sequence identity to a fully defined reference nucleotide sequence (S1) having 1752 base pairs as given in the specification, a nucleic acid comprising a sequence which has at least 81% sequence identity to a fully defined reference nucleotide sequence (S2) of 1659 base pairs as given in the specification and a nucleic acid comprising a nucleotide sequence which has at least 79% sequence identity to a fully defined reference nucleotide sequence (S3) of 1665 base pairs as given in the specification, where identity is determined using a Basic Local Alignment Search Tool (BLAST)-N algorithm, and parameters of the algorithm are selected to give the largest match between the sequences tested over their entire length of the reference sequence or is a member chosen from a nucleotide sequence which encodes a protein whose sequence has at least 66% sequence homology to a fully defined reference amino acid sequence (S4) of 583 amino acids as given in the specification, a nucleic acid comprising a nucleotide sequence which encodes a protein whose amino acid sequence comprises at least 90% sequence homology to a fully defined reference amino acid sequence (S5) of 552 amino acids and a nucleic acid comprising a nucleotide sequence which encodes a protein whose amino acid sequence comprises at least 89% sequence homology to a fully defined reference amino acid sequence (S6) of 554 amino acids as given in the specification, where identity is determined using a BLASTP algorithm, where parameters of the algorithm are selected to give the largest match between the sequences tested over the entire length of the reference sequence.

INDEPENDENT CLAIMS are also included for:

(1) synthesizing (M1) the bioconjugate;

(2) a bioconjugate produced by (M1);

(3) modulating an extent of crosslinking between a nucleic acid and (I) involves (M1), where a concentration of the dihydrazide crosslinker is increased/decreased to increase/decrease the extent of crosslinking, respectively or the pH is lowered to increase the extent of crosslinking or is raised to decrease the extent of crosslinking; and

(4) an isolated eye cell transfected with (I).

ACTIVITY - Osteopathic; Antiarthritic.

MECHANISM OF ACTION - Gene therapy.

No biological data given.

USE - (I) is useful for transfecting an eye cell of an individual with nucleic acid comprising a nucleotide sequence which is a member chosen from (S1)-(S3), which involves contacting the cell with (I) comprising the nucleic acid. (I) is useful for treating dry eye syndrome in an individual comprising transfecting an eye cell of the individual with nucleic acid by contacting the cell with (I) (claimed). (I) is useful for treating osteoarthritis of the particular joints.

ADVANTAGE - (I) comprises substances which provide increased safety and bioavailability of nucleic acid when used in gene therapy applications. The manufacture of (I) is commercially feasible. The superficial or mild crosslinking allows the DNA to be released rapidly.

DESCRIPTION OF DRAWING(S) - The figure shows release of DNA from two different formulations of dihydrazide derivatized hyaluronic acid/nucleic acid microspheres.

☐ 53. Document ID: AU 2001278893 A1, WO 2003006068 A1

L2: Entry 53 of 57 File: DWPI Jan 29, 2003

DERWENT-ACC-NO: 2003-221664
DERWENT-WEEK: 200452

TITLE: Novel dihydrazide derivatized hyaluronic acid/nucleic acid bioconjugate for treating dry eye syndrome, has derivatized hyaluronic acid crosslinked to nucleic acid encoding protein with hyaluronan synthase activity

INVENTOR: CHEN, W; DEHAZYA, P

PRIORITY-DATA: 2001WO-US21785 (July 10, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 2001278893 A1	January 29, 2003		000	A61K048/00
WO 2003006068 A1	January 23, 2003	E	062	A61K048/00

INT-CL (IPC): A61 K 35/00; A61 K 48/00; C07 H 15/12; C12 N 15/85

ABSTRACTED-PUB-NO: WO2003006068A
BASIC-ABSTRACT:

NOVELTY - A dihydrazide derivatized hyaluronic acid (HA)/nucleic acid (NA) bioconjugate, with derivatized HA linked to NA encoding protein with hyaluronan synthase activity, where NA has sequence with 79-85% sequence identity (SI) to sequence of 1752, 1659 or 1665 nucleotides or sequence encoding protein with 66-90% SI to sequence of 583, 552 or 554 amino acids, is new. All sequences are given in

specification.

DETAILED DESCRIPTION - A dihydrazide derivatized hyaluronic acid/nucleic acid bioconjugate (I) comprises derivatized hyaluronic acid crosslinked to a nucleic acid, where the nucleic acid comprises a gene which encodes a protein which comprises hyaluronan synthase activity and where the nucleic acid is a member selected from a nucleic acid comprising a nucleotide sequence which comprises at least 85%, 81% and 79% sequence identity to the reference nucleotide sequence (S1) of 1752, 1659 and 1665 nucleotides fully defined in the specification, respectively, and a nucleic acid comprising a nucleotide sequence which encodes a protein whose amino acid sequence comprises at least 66%, 90% and 89% sequence homology to the reference amino acid sequence (S2) of 583, 552 and 554 amino acids fully defined in the specification, respectively, where the identity is determined using a basic local alignment search tool (BLASTN) algorithm, where parameters of the algorithm are selected to give the largest match between the sequences tested over the entire length of the reference sequence.

INDEPENDENT CLAIMS are also included for:

(1) synthesizing (M) (I), where the nucleic acid comprises a nucleotide sequence which is a member selected from a sequence comprising 1752, 1659 and 1665 nucleotides fully defined in the specification, involves contacting hyaluronic acid with the nucleic acid to form a mixture, drying the mixture of hyaluronic acid and the nucleic acid, suspending the dried mixture in a solution of 90% dimethyl formamide containing a dihydrazide crosslinker and a carbodiimide, adjusting pH of the suspension to an acidic range, isolating the suspended material from the suspension, and washing the isolated material with an alcohol;

(2) a bioconjugate produced by (M); and

(3) an isolated eye cell transfected by contacting the cell with (I).

ACTIVITY - Ophthalmological; Osteopathic; Antiarthritic.

No biological data given.

MECHANISM OF ACTION - Gene therapy; Inhibitor of angiogenesis; Inducer of expression of hyaluronic acid in human corneal epithelial cell.

Human corneal epithelial cells were transformed with matrices comprising mouse HAS1, HAS2 or HAS3. Expression of hyaluronic acid in the transformed cells were then demonstrated. Four separate experiments were performed: human corneal epithelial cells were transformed with mouse HAS1, mouse HAS2, mouse HAS3, or with pcDNA3.1/V5-His A plasmid alone. Hyaluronic acid production was then determined for each transformed cell line. HAS1, HAS2 or HAS3 genes were inserted into the plasmid pcDNA3.1/V5-His A which drives expression of the HAS1, HAS2 or HAS3 genes from a cytomegalovirus (CMV) promoter. Matrices comprising each plasmid were formulated. Human corneal epithelial cell line HCE-2 was grown in modified eagle medium (MEM) medium with 10% fetal bovine serum (FBS) at 37 deg. C at 5% CO2. In 35 mm tissue culture plate, about 3 multiply 105 HCE-2 cells were seeded in 2 ml Dulbecco's modified Eagle medium (DMEM) growth medium. The cells were incubated at 37 deg. C in 5% CO2 until the cells were about 50-70% confluent. The quantity of hyaluronic acid associated with each cell line was determined using the biotin/streptavidin/horse radish peroxidase conjugated assay. These experiments demonstrated that the level of hyaluronic acid in the cells of experiments 1-3 (corresponding to HAS1, HAS2 and HAS3 transformed cells, respectively) was measurably greater than that of the cells of experiment 4 (corresponding to cells transformed with pcDNA3.1/V5-His A only.

USE - (I) is useful for transfecting a cell of an eye with nucleic acid, where the

nucleic acid comprises (S1), by contacting the cell with (I) comprising the nucleic acid. (I) is useful for treating dry eye syndrome in an individual, by transfecting a cell in an eye of the individual by contacting the cell with (I) comprising (S1). (M) is useful for modulating an extent of crosslinking between a nucleic acid and dihydrazide derivatized hyaluronic acid in a bioconjugate, by increasing the concentration of dihydrazide crosslinker to increase the extent of crosslinking, decreasing the concentration of dihydrazide crosslinker to decrease the extent of crosslinking, lowering the pH to increase the extent of crosslinking, or raising pH to decrease the extent of crosslinking (claimed). (I) is useful in gene therapy applications for the treatment of a variety of medical conditions including dry eye syndrome or other medical conditions where an increase in the production of hyaluronic acid in the eye would be therapeutic (e.g., osteoarthritis of the articular joints). (I) is also useful for inhibiting angiogenesis for the treatment of macular degeneration or genes related to lipid biosynthesis that helps to restore the lipid component of the tear film, and as reagents for in vitro transformation of any cell, preferably a eukaryotic cell, more preferably a human eye cell.

ADVANTAGE - (I) provides increased safety and bioavailability of nucleic acids when used in gene therapy applications.

DESCRIPTION OF DRAWING(S) - The figure shows a representative hyaluronan synthase (HAS) construct containing the HAS2 gene, a cytomegalovirus (CMV) promoter, antibiotic resistance elements, a poly adenylation site, a viral origin of DNA replication and a peptide tag.

☐ 54. Document ID: JP 2002186495 A, EP 881294 A2, JP 11009288 A, CA 2231723 A, US 5994100 A, US 6350446 B1

L2: Entry 54 of 57 File: DWPI Jul 2, 2002

DERWENT-ACC-NO: 1999-001400
DERWENT-WEEK: 200258

TITLE: New hyaluronan synthase (HOEFC11) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of cancer and chronic renal failure

INVENTOR: NAMBI, P; PULLEN, M A ; ZHU, Y ; PULLEN, M

PRIORITY-DATA: 1997US-0865273 (May 29, 1997), 1999US-0385174 (August 30, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002186495 A	July 2, 2002		015	C12N015/09
EP 881294 A2	December 2, 1998	E	018	C12N015/54
JP 11009288 A	January 19, 1999		015	C12N015/09
CA 2231723 A	November 29, 1998		000	C12N015/52
US 5994100 A	November 30, 1999		000	C12P021/06
US 6350446 B1	February 26, 2002		000	A61K038/43

INT-CL (IPC): A61 K 31/70; A61 K 31/7088; A61 K 38/00; A61 K 38/43; A61 K 38/45; A61 K 39/395; A61 K 45/00; A61 K 48/00; A61 P 1/16; A61 P 9/10; A61 P 13/12; A61 P 19/02; A61 P 29/00; A61 P 35/00; A61 P 43/00; C07 H 21/04; C07 K 1/00; C07 K 16/40; C12 N 1/15; C12 N 1/19; C12 N 1/20; C12 N 1/21; C12 N 5/10; C12 N 9/00; C12 N 9/10; C12 N 15/00; C12 N 15/09; C12 N 15/52; C12 N 15/54; C12 P 21/06; C12 P 21/08; C12 Q 1/02; C12 Q 1/25; C12 Q 1/48; C12 Q 1/68; G01 N 33/15; G01 N 33/50; G01 N 33/573

ABSTRACTED-PUB-NO: EP 881294A
BASIC-ABSTRACT:

A hyaluronan synthase (HOEFC11) polypeptide comprising an amino acid sequence at least 80% identical to sequence (I), a fully defined 241 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) which is complementary or at least 80% identical to a sequence encoding (I); (2) a DNA or RNA molecule comprising an expression system producing above HOEFC11 polypeptides; (3) a host cell comprising expression system (2); (4) an antibody immunospecific for HOEFC11 polypeptides; (5) agonists and antagonists to HOEFC11 polypeptides; and (6) a method of treatment involving inhibiting activity or expression of HOEFC11 polypeptides by administering: (a) an antagonist (5) to the HOEFC11 polypeptide; and/or (b) a nucleic acid that inhibits expression of HOEFC11 polynucleotides; and/or (c) a polypeptide that competes with the HOEFC11 polypeptide for its ligand, substrate or receptor.

USE - HOEFC11 polypeptides and polynucleotides are useful for diagnosing susceptibility to diseases by detecting mutations in the HOEFC11 gene using probes containing the HOEFC11 nucleotide sequence, and can diagnose diseases associated with HOEFC11 imbalance by determining HOEFC11 polypeptide levels (claimed). HOEFC11 polypeptides can be used to screen for agonists and antagonists which bind HOEFC11 polypeptide (I) by observing the binding, or stimulation or inhibition of HOEFC11 activity (claimed). These can be used in treatment to activate (agonist) or inhibit (antagonist) HOEFC11 activity, in addition to direct administration of antisense sequences to prevent expression, or HOEFC11 polypeptides to treat conditions associated with a lack of HOEFC11 protein. Gene therapy may also be used to affect endogenous HOEFC11 polypeptide production. HOEFC11 antibodies are useful for inducing an immune response to immunise and prevent diseases, and for isolating HOEFC11 clones or purifying HOEFC11 polypeptides by affinity chromatography. HOEFC11 polypeptides can be administered directly or as a vaccine to inoculate against disease. Diseases diagnosed, prevented or treated include: chronic renal failure; inflammatory diseases; myocardial ischemia; cancer; rheumatoid arthritis and cirrhotic liver disease. The HOEFC11 polypeptide is also useful for mapping the gene to a chromosome, allowing gene inheritance to be studied through linkage analysis.
ABSTRACTED-PUB-NO:

US 5994100A EQUIVALENT-ABSTRACTS:

A hyaluronan synthase (HOEFC11) polypeptide comprising an amino acid sequence at least 80% identical to sequence (I), a fully defined 241 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) which is complementary or at least 80% identical to a sequence encoding (I); (2) a DNA or RNA molecule comprising an expression system producing above HOEFC11 polypeptides; (3) a host cell comprising expression system (2); (4) an antibody immunospecific for HOEFC11 polypeptides; (5) agonists and antagonists to HOEFC11 polypeptides; and (6) a method of treatment involving inhibiting activity or expression of HOEFC11 polypeptides by administering: (a) an antagonist (5) to the HOEFC11 polypeptide; and/or (b) a nucleic acid that inhibits expression of HOEFC11 polynucleotides; and/or (c) a polypeptide that competes with the HOEFC11 polypeptide for its ligand, substrate or receptor.

USE - HOEFC11 polypeptides and polynucleotides are useful for diagnosing susceptibility to diseases by detecting mutations in the HOEFC11 gene using probes containing the HOEFC11 nucleotide sequence, and can diagnose diseases associated with HOEFC11 imbalance by determining HOEFC11 polypeptide levels (claimed). HOEFC11 polypeptides can be used to screen for agonists and antagonists which bind HOEFC11 polypeptide (I) by observing the binding, or stimulation or inhibition of HOEFC11 activity (claimed). These can be used in treatment to activate (agonist) or inhibit (antagonist) HOEFC11 activity, in addition to direct administration of antisense sequences to prevent expression, or HOEFC11 polypeptides to treat conditions associated with a lack of HOEFC11 protein. Gene therapy may also be used to affect endogenous HOEFC11 polypeptide production. HOEFC11 antibodies are useful for inducing an immune response to immunise and prevent diseases, and for isolating HOEFC11 clones or purifying HOEFC11 polypeptides by affinity chromatography. HOEFC11 polypeptides can be administered directly or as a vaccine to inoculate against disease. Diseases diagnosed, prevented or treated include: chronic renal failure; inflammatory diseases; myocardial ischemia; cancer; rheumatoid arthritis and cirrhotic liver disease. The HOEFC11 polypeptide is also useful for mapping the gene to a chromosome, allowing gene inheritance to be studied through linkage analysis.

US 6350446B

A hyaluronan synthase (HOEFC11) polypeptide comprising an amino acid sequence at least 80% identical to sequence (I), a fully defined 241 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) which is complementary or at least 80% identical to a sequence encoding (I); (2) a DNA or RNA molecule comprising an expression system producing above HOEFC11 polypeptides; (3) a host cell comprising expression system (2); (4) an antibody immunospecific for HOEFC11 polypeptides; (5) agonists and antagonists to HOEFC11 polypeptides; and (6) a method of treatment involving inhibiting activity or expression of HOEFC11 polypeptides by administering: (a) an antagonist (5) to the HOEFC11 polypeptide; and/or (b) a nucleic acid that inhibits expression of HOEFC11 polynucleotides; and/or (c) a polypeptide that competes with the HOEFC11 polypeptide for its ligand, substrate or receptor.

USE - HOEFC11 polypeptides and polynucleotides are useful for diagnosing susceptibility to diseases by detecting mutations in the HOEFC11 gene using probes containing the HOEFC11 nucleotide sequence, and can diagnose diseases associated with HOEFC11 imbalance by determining HOEFC11 polypeptide levels (claimed). HOEFC11 polypeptides can be used to screen for agonists and antagonists which bind HOEFC11 polypeptide (I) by observing the binding, or stimulation or inhibition of HOEFC11 activity (claimed). These can be used in treatment to activate (agonist) or inhibit (antagonist) HOEFC11 activity, in addition to direct administration of antisense sequences to prevent expression, or HOEFC11 polypeptides to treat conditions associated with a lack of HOEFC11 protein. Gene therapy may also be used to affect endogenous HOEFC11 polypeptide production. HOEFC11 antibodies are useful for inducing an immune response to immunise and prevent diseases, and for isolating HOEFC11 clones or purifying HOEFC11 polypeptides by affinity chromatography. HOEFC11 polypeptides can be administered directly or as a vaccine to inoculate against disease. Diseases diagnosed, prevented or treated include: chronic renal failure; inflammatory diseases; myocardial ischemia; cancer; rheumatoid arthritis and cirrhotic liver disease. The HOEFC11 polypeptide is also useful for mapping the gene to a chromosome, allowing gene inheritance to be studied through linkage analysis.

☐ 55. Document ID: WO 9848807 A1, JP 10546805 X, AU 9868543 A

L2: Entry 55 of 57 File: DWPI Nov 5, 1998

DERWENT-ACC-NO: 1998-594735
DERWENT-WEEK: 200059

TITLE: Hyaluronic acid synthesis inhibitor for treating fibrosis etc. - containing (benzoyl-piperidinyl)carbostyryl compound

INVENTOR: ADACHI, M; HIGASHINO, K ; TAGUCHI, T ; TAKAHASHI, M ; UEKI, N

PRIORITY-DATA: 1997JP-0123132 (April 25, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9848807 A1	November 5, 1998	J	037	A61K031/495
JP 10546805 X	October 31, 2000		000	A61K031/495
AU 9868543 A	November 24, 1998		000	A61K031/495

INT-CL (IPC): A61 K 31/495; C07 D 215/38

ABSTRACTED-PUB-NO: WO 9848807A
BASIC-ABSTRACT:

Hyaluronic acid synthesis inhibitor contains at least one compound of formula (I) or its salts, and a support. In formula (I), R = benzoyl with 0-3 ring substituents of 1-6C alkoxy; the dashed line indicates an optional double bond.

USE - (I) is used to control excessive production of hyaluronic acid (claimed) and hyaluronan synthase. (Ia) inhibits expression of the hyaluronic acid synthase gene and inhibits the activity of this enzyme directly (I) is used for the prevention and treatment of fibrosis, such as the fibroses that occurs due to chronic inflammation of the lungs, liver and kidney; connective tissue disease such as collagen disease; increase and metastasis of cancer cells; and infections with A-type streptococcal infections etc. Dosage is 0.5-30 mg/kg.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 56. Document ID: US 6602693 B1, WO 9800551 A2, AU 9736522 A, US 6492150 B1

L2: Entry 56 of 57 File: DWPI Aug 5, 2003

DERWENT-ACC-NO: 1998-086976
DERWENT-WEEK: 200353

TITLE: Nucleic acid encoding hyaluronan synthase-2 or -3 or their active fragments - used for treating arthritis, in wound repair, for delivering drugs etc.

INVENTOR: AUGUSTINE, M L; MCDONALD, J A ; SPICER, A P

PRIORITY-DATA: 1997US-0812008 (March 5, 1997), 1996US-0675499 (July 3, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6602693 B1	August 5, 2003		000	C12N009/00
WO 9800551 A2	January 8, 1998	E	114	C12N015/54
AU 9736522 A	January 21, 1998		000	C12N015/54
US 6492150 B1	December 10, 2002		000	C12N009/00

INT-CL (IPC): A61 K 38/43; C07 H 21/04; C12 N 1/20; C12 N 5/10; C12 N 9/00; C12 N 9/10; C12 N 15/54; C12 N 15/85; C12 Q 1/68

ABSTRACTED-PUB-NO: WO 9800551A
BASIC-ABSTRACT:

Isolated, purified DNA (I) encodes hyaluronan synthase-2 (HS-2) or -3 (HS-3) or their biologically active variants or subunits.

Also claimed are:

(1) primers and probes of at least 15 nucleotides (nt), having at least 80% identity to DNA encoding HS-3;

(2) an expression cassette comprising promoter linked to (I);

(3) host cells having (I) in its genome;

(4) isolated, purified HS-2 or -3 polypeptides (II), and their biologically active variants and subunits;

(4) identification of mammals with (or at risk of) a condition involving abnormal hyaluronan synthesis or extracellular accumulation by detecting, in a body sample, complex formation between HS-2 or -3 and a specific binding agent;

(5) detection of (I) by polymerase chain reaction (PCR) amplification of cDNA from a mammalian sample, and

(6) therapeutic method involving administration of an agent (A) that alters natural HS-2 or -3 activity.

USE - Cells of (3) are used to produce recombinant HS-2 or -3, specifically for altering (increasing or, where antisense sequences are present, reducing) the amount of hyaluronan (HA; hyaluronic acid) produced by the cell. HS-2 and -3 can also be used for in vitro synthesis of HA (all claimed).

HA is known for treating arthritis or perforated ear drums; for protection of eyes during surgery; for drug delivery; to prevent post-operative scarring or adhesion formation; for wound healing, and prevention of restenosis following balloon angioplasty. Modulation of HA production in vivo may be useful in e.g. Graves disease; mesothelioma; Wilm's tumour, and oedema associated with inflammation of lung and kidney, all of which are associated with elevated levels of HA in tissues or serum.

The method of (5), using probes or primers of (1), is used to diagnose these conditions, particularly where the test sample is a tissue or body fluid.

(I) is administered in usual viral or liposome vectors.

ADVANTAGE - HS-2 and -3 allow in vitro production of HA of very high purity, uncontaminated by bacterial or animal cell components.

☐ 57. Document ID: US 20020151026 A1, WO 9740174 A1, US 6423514 B1

L2: Entry 57 of 57 File: DWPI Oct 17, 2002

DERWENT-ACC-NO: 1997-549359
DERWENT-WEEK: 200270

TITLE: Human hyaluronan synthase - useful for recombinant production of hyaluronic acid for wound healing, tissue repair and reducing hypertrophic scar and keloid formation

INVENTOR: BRISKIN, M J

PRIORITY-DATA: 1996US-0635552 (April 22, 1996), 2001US-0042523 (October 19, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020151026 A1	October 17, 2002		000	C12P019/26
WO 9740174 A1	October 30, 1997	E	057	C12N015/54
US 6423514 B1	July 23, 2002		000	C12N009/00

INT-CL (IPC): C07 K 16/40; C08 B 37/00; C12 N 5/06; C12 N 5/10; C12 N 9/00; C12 N 9/10; C12 N 9/24; C12 N 15/11; C12 N 15/54; C12 N 15/63; C12 P 19/04; C12 P 19/26; C12 P 21/02; G01 N 33/573

ABSTRACTED-PUB-NO: US 6423514B
BASIC-ABSTRACT:

An isolated or recombinant nucleic acid (I) which encodes a mammalian hyaluronan (hyaluronic acid) synthase (A) is new. Also claimed are: (1) a recombinant nucleic acid construct comprising (I), preferably, operably linked to an expression control sequence; (2) a host cell comprising (I); and (3) an antibody (Ab) or functional Ab fragment which binds to (A).

USE - (I) and the construct are used for the recombinant production of hyaluronan synthase and ultimately for the production of hyaluronan. Hyaluronan is useful for wound healing and tissue repair and can reduce or prevent hypertrophic scars and keloid formation and in eye surgery as a replacement for vitreous fluid. (I) can also confer cell adhesion properties to a cell via lymphocyte receptor CD44. Ab can be used for detection of (A) and inhibition of (A). This may be useful in research, diagnostic and therapeutic applications.
ABSTRACTED-PUB-NO:

US20020151026A EQUIVALENT-ABSTRACTS:

An isolated or recombinant nucleic acid (I) which encodes a mammalian hyaluronan (hyaluronic acid) synthase (A) is new. Also claimed are: (1) a recombinant nucleic acid construct comprising (I), preferably, operably linked to an expression control sequence; (2) a host cell comprising (I); and (3) an antibody (Ab) or functional Ab fragment which binds to (A).

USE - (I) and the construct are used for the recombinant production of hyaluronan synthase and ultimately for the production of hyaluronan. Hyaluronan is useful for wound healing and tissue repair and can reduce or prevent hypertrophic scars and keloid formation and in eye surgery as a replacement for vitreous fluid. (I) can also confer cell adhesion properties to a cell via lymphocyte receptor CD44. Ab can be used for detection of (A) and inhibition of (A). This may be useful in research, diagnostic and therapeutic applications.

An isolated or recombinant nucleic acid (I) which encodes a mammalian hyaluronan (hyaluronic acid) synthase (A) is new. Also claimed are: (1) a recombinant nucleic acid construct comprising (I), preferably, operably linked to an expression control sequence; (2) a host cell comprising (I); and (3) an antibody (Ab) or functional Ab fragment which binds to (A).

USE - (I) and the construct are used for the recombinant production of hyaluronan synthase and ultimately for the production of hyaluronan. Hyaluronan is useful for wound healing and tissue repair and can reduce or prevent hypertrophic scars and keloid formation and in eye surgery as a replacement for vitreous fluid. (I) can also confer cell adhesion properties to a cell via lymphocyte receptor CD44. Ab can be used for detection of (A) and inhibition of (A). This may be useful in research, diagnostic and therapeutic applications.

WO 9740174A

Terms	Documents
hyaluronan synthase or hyalouronic acid synthase	57